The compactness and versatility of the Farrand grating Monochromators is such that they can be arranged in varying combinations and set-ups to suit any specific requirements.

Figures 4 and 5 show UV and Visible Region Monochromators set up as Spectrofluorometers, for determining spectral distribution of fluorescence and the spectral efficiency of excitation of fluorescence; for selection of the optimum wavelength of excitation and the analysis of spectra of fluorescent compounds in the ultraviolet, visible and infrared regions.

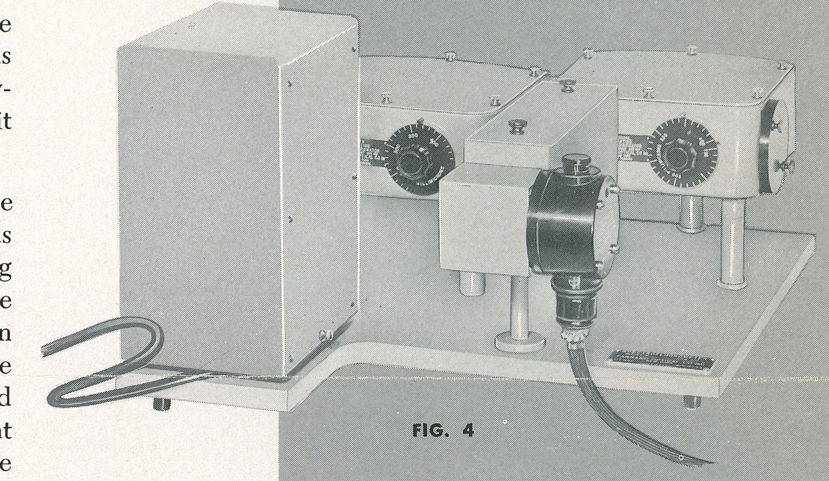

FIG. 4

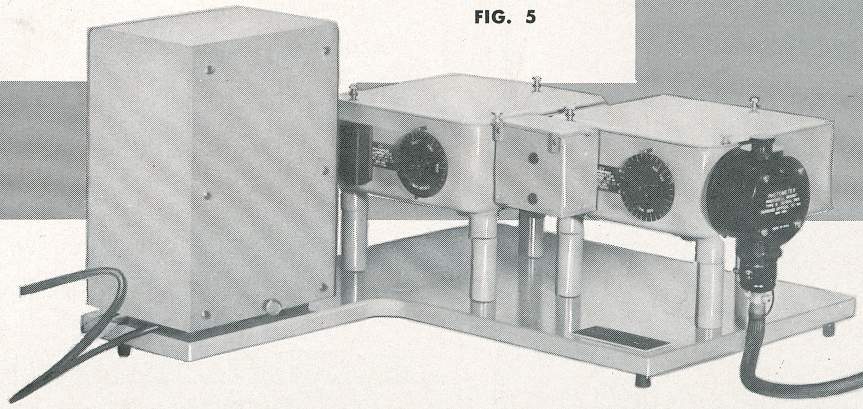

FIG. 5

DETAILED INFORMATION ON REQUEST

●

The facilities of the Farrand Optical Co., Inc. are available for design, engineering, development and production of scientific instruments.

We invite you to submit your requirements for special instruments as well as problems in connection with new developments.

Bulletin 811

Printed in U. S. A.

FARRAND OPTICAL CO., Inc.
BRONX BOULEVARD & EAST 238th ST., NEW YORK 70, N. Y.

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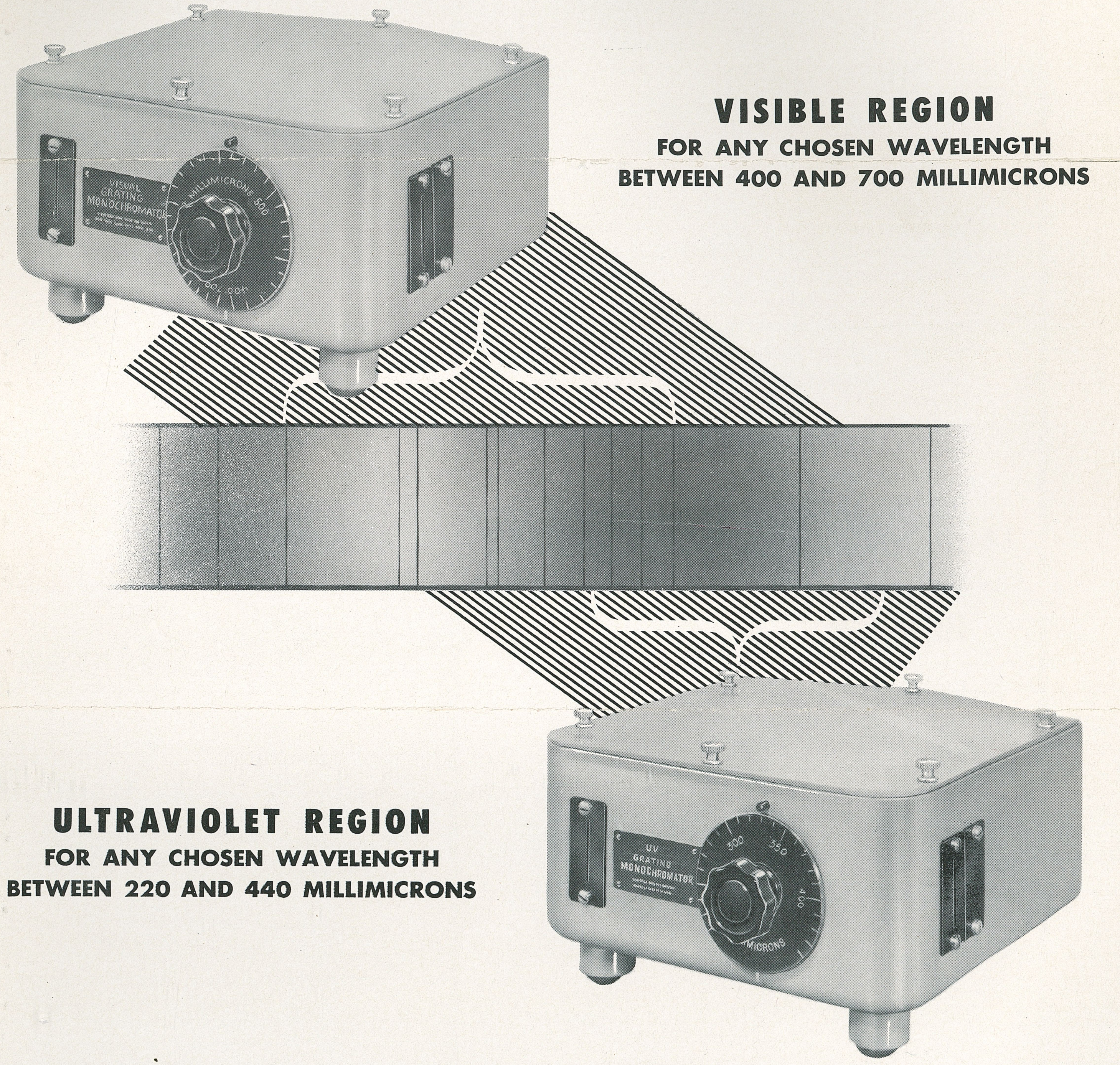
FARRAND®

GRATING MONOCHROMATORS

for the ultraviolet and visible ranges



VISIBLE REGION

FOR ANY CHOSEN WAVELENGTH
BETWEEN 400 AND 700 MILLIMICRONS

ULTRAVIOLET REGION

FOR ANY CHOSEN WAVELENGTH
BETWEEN 220 AND 440 MILLIMICRONS

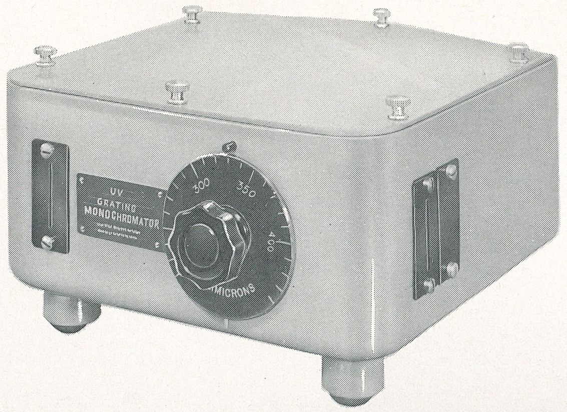
ENGINEERING
RESEARCH • DEVELOPMENT
DESIGN • MANUFACTURE

FARRAND OPTICAL CO., INC.
BRONX BLVD AND E. 238th ST., NEW YORK 70, N.Y.

PRECISION OPTICS
ELECTRONIC AND
SCIENTIFIC INSTRUMENTS

ULTRAVIOLET GRATING MONOCHROMATOR

CATALOG NO. 91087



The Farrand UV Grating Monochromator was designed to yield monochromatic illumination at any chosen wavelength between 220 and 440 millimicrons in the ultraviolet range, using sources such as the H3, H4, H6, etc. mercury arcs.

The instrument is small, compact and convenient to use with microscopes, colorimeters, photometers and similar instruments. It can be set up with auxiliary equipment for making transmission, absorption, emission, radiation, reflection, fluorescence and phosphorescence measurements or used for irradiation purposes.

The dispersing element is a reflection type, aluminized replica grating, 14400 lines per inch. The replica grating is mounted on a heavy glass plate, supported on a metal yoke coupled to the shaft and motivated by a wavelength drive.

SPECTRAL RANGE

220 TO 440 MILLIMICRONS

GRATING

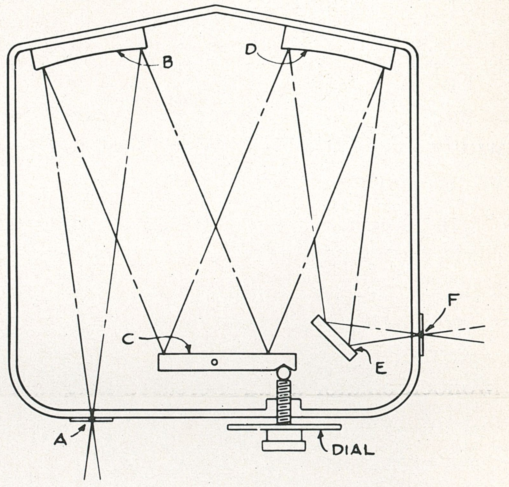
REFLECTION TYPE REPLICA
14,400 LINES PER INCH

GENERAL CHARACTERISTICS

SPECTRAL RANGE:	220-440 mμ
DISPERSING ELEMENT:	Replica grating, reflecting type, 14400 lines/in.
FOCAL LENGTH:	160 mm.
FREE APERTURE:	45 mm. F:3.5.
DISPERSION:	11 mμ/mm in first order.
SCATTERED ENERGY:	At 313 mμ less than 1%.
TRANSMISSION:	Greater than 30% at 313 mμ.
SLITS:	Height, 19 mm, fixed slit widths—5, 10, 15 or 20 mμ, Interchangeable. *
WAVELENGTH DIAL:	Calibrated in 10 mμ steps, readable in increments of 2 mμ.

Size, 8″ x 8″ x 4″ • Weight, 4 Pounds.
CODE WORD—KLIC

SCHEMATIC OF THE INSTRUMENT COMPONENTS



Light from a source is focused on entrance slit A and transmitted to spherical mirror B. Collimated by mirror B and the parallel beam then reflected to diffraction grating C, dispersed and incident on spherical mirror D. The reflected beam from D is converged on plane mirror E to form an image which emerges through exit slit F.

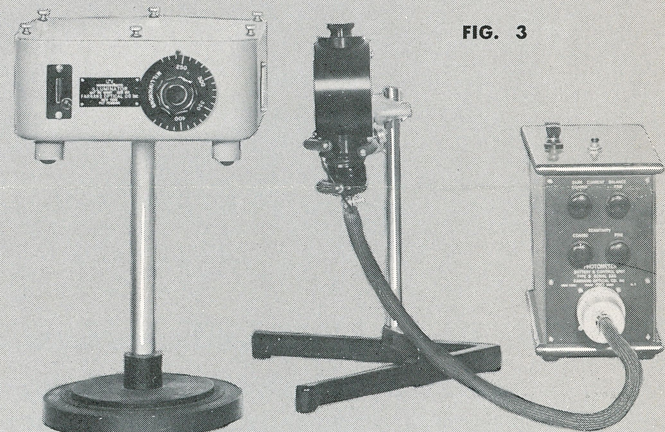
The instrument housings are cast aluminum. The top is removable. The inside of the case is dull black; the outside, in green enamel finish. Entrance and exit slit apertures accommodate metal disk slits having fixed equivalent bandwidths of 5, 10, 15 or 20 millimicrons; slits are interchangeable.

The base of the instrument has three, short, rubber tipped feet to prevent damage to table top. (See Fig. 1.) These rubber feet can be removed and replaced with standard laboratory type metal rods when it is desired to mount the Monochromator at an increased height. The feet are threaded to accept standard rod supports of ½-inch diameter. (See Figure 2.)

The center of the base also has a tapped bushing to accept a laboratory stand of the type illustrated, Figure 3.

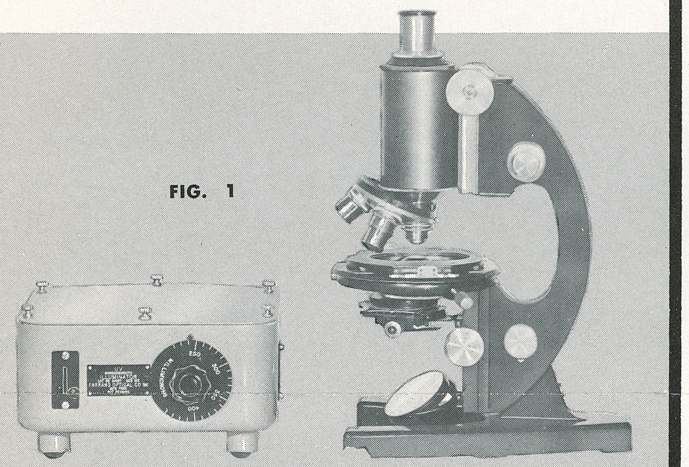
These provisions make it convenient to set or orient the Monochromator to any desired position and height.

FIG. 3



GRATING MONOCHROMATOR WITH PHOTOMETER

FIG. 1



GRATING MONOCHROMATOR WITH MICROSCOPE

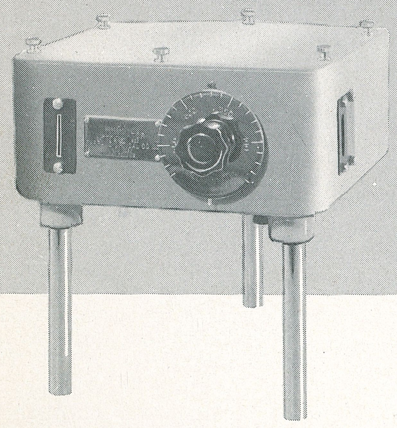
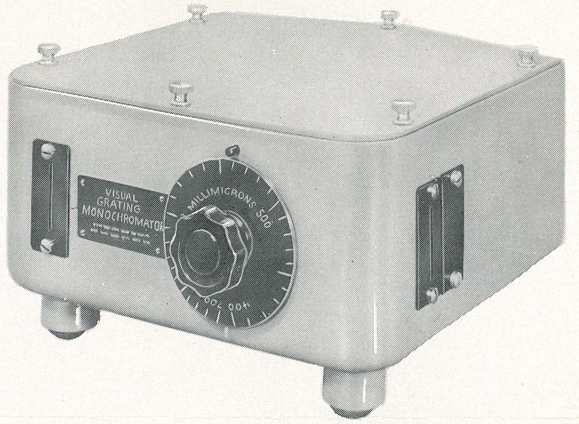


FIG. 2

VISIBLE REGION GRATING MONOCHROMATOR

CATALOG NO. 101866



The Farrand Visible Region Grating Monochromator is of the exact same construction as the Ultraviolet Grating Monochromator, but utilizes a grating to yield monochromatic illumination at any chosen wavelength between 400 and 700 millimicrons.

SPECTRAL RANGE

400 to 700 MILLIMICRONS

GRATING

REFLECTION TYPE REPLICA
14,400 LINES PER INCH

GENERAL CHARACTERISTICS

SPECTRAL RANGE:	400-700 mμ
DISPERSING ELEMENT:	Replica grating, reflecting type, 14400 lines/in.
FOCAL LENGTH:	160 mm.
FREE APERTURE:	45 mm. F:3.5.
DISPERSION:	11 mμ/mm in first order.
SCATTERED ENERGY:	At 400 mμ less than ½%.
TRANSMISSION:	Greater than 45% at 546 mμ.
SLITS:	Height, 19 mm, fixed slit widths—5, 10, 15 or 20 mμ, Interchangeable. *
WAVELENGTH DIAL:	Calibrated in 10 mμ steps, readable in increments of 2 mμ.

Size, 8″ x 8″ x 4″ • Weight, 4 Pounds.
CODE WORD—VISC

* Slit Sizes from 1 to 4 mμ supplied on order.